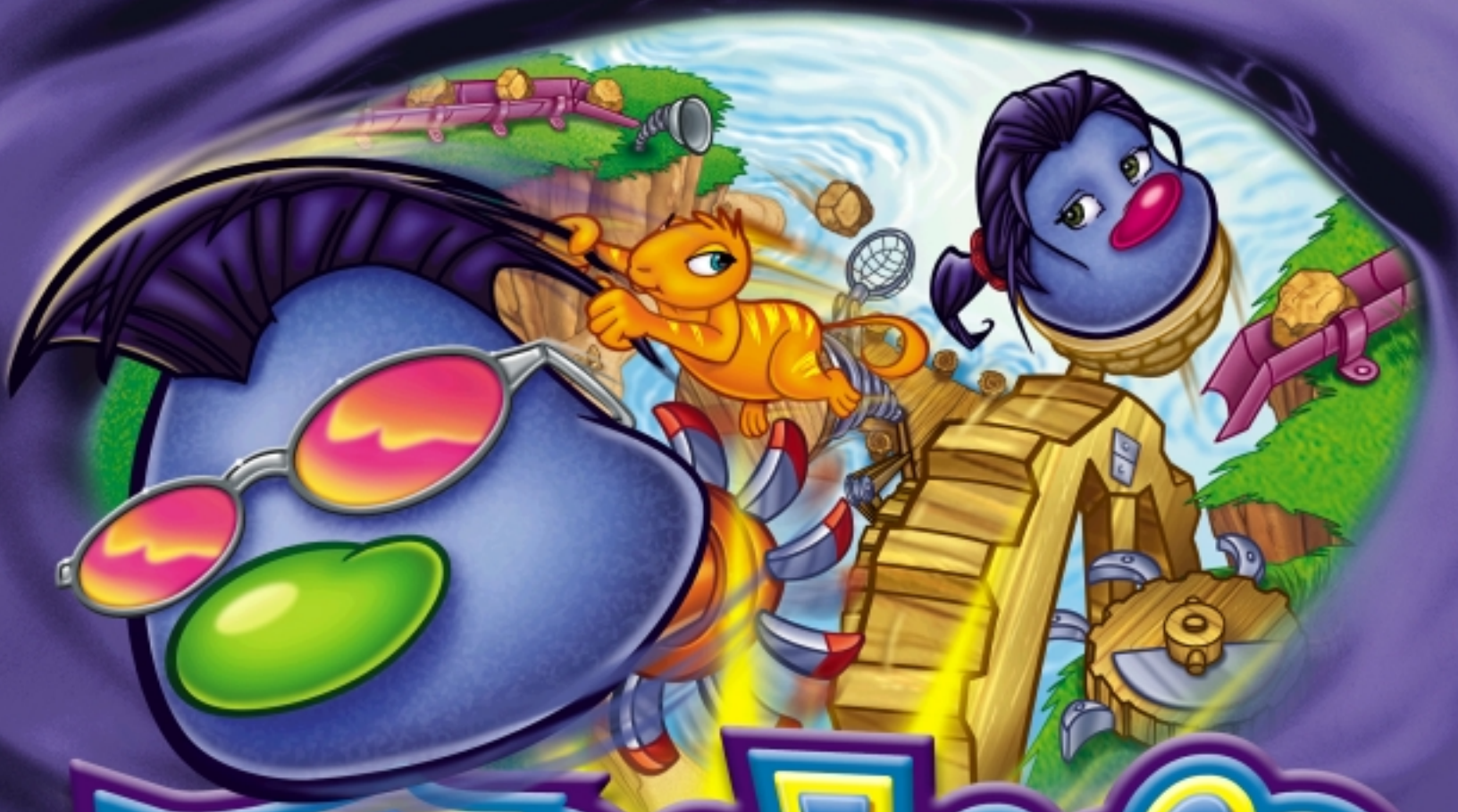
USER'S GUIDE



Zoombinis

Island Odyssey

ABOUT RIVERDEEP – THE LEARNING COMPANY

Riverdeep—The Learning Company provides highly motivating, dynamic, curriculum-based Internet and CD-ROM learning experiences for the K–12 market. Our products feature interactive, problem-solving approaches and real-world applications that help develop your child's underlying thinking skills and creativity, while reinforcing important areas of the basic curriculum, such as reading, writing, and mathematics.

Since 1980, The Learning Company's award-winning titles have consistently produced the highest quality of educational software available. Every product under the Zoombinis brand undergoes extensive research and testing, with input from parents, children, and professionals in education. Each product features a precise balance of educational content and entertainment value, so your child has fun while learning!

THE USER'S GUIDE

This user's guide is composed of two parts. The first section outlines how to install the program, how the game and its components work, and how to navigate through the activities. The second section, the Parents' Corner, focuses on the educational makeup of *Zoombinis Island Odyssey*.

- Start with the **Installation Instructions** to help you set up the game.
- Check out **The Activities** section to learn how to navigate through the game.
- See the **Parents' Corner** section to review the educational focus of the software.

What Is Parents' Corner?

The Parents' Corner is where parents can find tools to help children integrate what they learn at the computer into their daily lives. Written with the help of parents and educators, the Parents' Corner describes the skills each activity encourages your child to develop; suggests skill-building activities that you and your child can share; and identifies educational resources to further a child's experience.

BRING ZOOMBINIS INTO THE CLASSROOM

School editions of *Zoombinis Island Odyssey* and other titles from Learning Company that contain classroom activities and resources are available from The Learning Company. Visit our school Web site at http://www.learningcompanyschool.com for more information.

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GETTING STARTED

SYSTEM REQUIREMENTS

NOTE: In the interest of product improvement, information and specifications represented herein are subject to change without notice.

WINDOWS®

- ❑ Windows® 98/98SE/Me/2000, or XP*
- ❑ 200-MHz Pentium® processor (or equivalent)
- ❑ 32 MB free RAM
- ❑ 80 MB free hard disk space**
- ❑ 8X speed CD-ROM (16X recommended)
- ❑ Windows-compatible sound card
- ❑ 16-bit color display with 800 x 600 resolution

* In order to load XP on the PC you need at least a Pentium II, 300 MHz processor, and 64MB RAM.

**An additional 7 MB of hard disk space may be required to install Adobe® Acrobat® Reader.

MACINTOSH®

- ❑ Operating System 8.6 – 9.x, OS X
- ❑ 233-MHz processor (G3-233 MHz recommended)
- ❑ 32 MB free RAM
- ❑ 80 MB free hard drive space
- ❑ 8X speed CD-ROM drive (16X recommended)
- ❑ Monitor displaying thousands of colors with 800 x 600 resolution

SETTING UP & STARTING THE PROGRAM

Zoombinis Island Odyssey runs from your computer's CD-ROM drive. However, you need 80 MB of free hard disk space to store some program files.

Some program files for *Zoombinis Island Odyssey* will be installed on your computer. If needed, the TLC Learning Launcher also will be installed on your computer. (See *Using the TLC Learning Launcher.*)

INSTALLING THE PROGRAM

WINDOWS®

AutoPlay is usually enabled when you install Windows on your computer. (See your Windows documentation for more information.)

To install the program with AutoPlay on:

1. Insert the *Zoombinis Island Odyssey* program CD into your CD-ROM drive.
2. Follow the onscreen instructions to complete the setup process. Once you complete the setup, the program runs automatically any time you insert the program CD into the CD-ROM drive.

To install the program with AutoPlay off:

1. Insert the *Zoombinis Island Odyssey* program CD into your CD-ROM drive.
2. Double-click MY COMPUTER.
3. Double-click the CD-ROM icon.
4. Follow the onscreen instructions to complete the setup process.

MACINTOSH®

To install the program with the AutoPlay extension on:

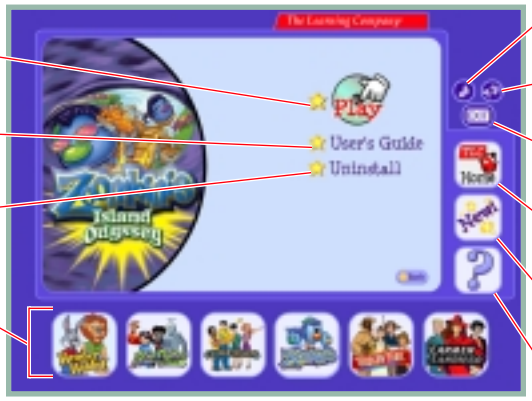
1. Insert the program CD into your CD-ROM drive.
2. Follow the onscreen instructions to complete the setup process.

To install the program with the AutoPlay extension off:

1. Insert the program CD into your CD-ROM drive.
2. Double-click the ZOOMBINIS ISLAND ODYSSEY icon in the open window.
3. Follow the onscreen instructions to complete the setup process.

   Note: If you are running OS X and are experiencing performance problems during the opening movie, quit the program. Click on the OS X Performance Patch file and follow the onscreen instructions.

STARTING THE PROGRAM



WINDOWS®

To start the program with AutoPlay on:

1. Insert the *Zoombinis Island Odyssey* program CD into your CD-ROM drive.
2. At the TLC Learning Launcher, click **PLAY**.

There are two ways to start the program with AutoPlay turned off. You can choose to follow either set of instructions.

To start the program with AutoPlay off (Option 1):

1. Insert the *Zoombinis Island Odyssey* program CD into your CD-ROM drive.
2. Double-click MY COMPUTER.
3. Double-click the CD-ROM icon.
4. At the TLC Learning Launcher, click PLAY.

To start the program with AutoPlay off (Option 2):

1. Insert the *Zoombinis Island Odyssey* program CD into your CD-ROM drive.
2. Click the START button. Then choose PROGRAMS, THE LEARNING COMPANY, ZOOMBINIS, and ZOOMBINI ISLAND ODYSSEY in that order.
3. At the TLC Learning Launcher, click PLAY.

MACINTOSH®

To start the program with the AutoPlay extension on:

1. Insert the program CD into your CD-ROM drive.
2. At the launcher, click Play.

To start the program with the AutoPlay extension off:

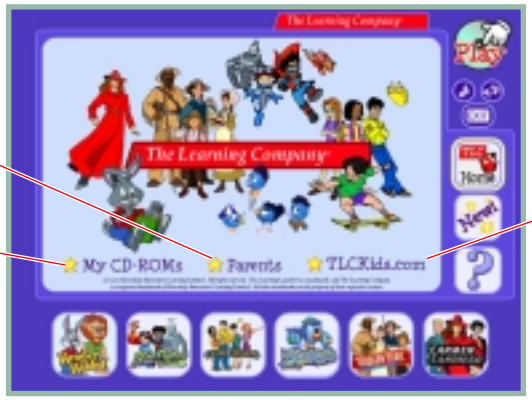
1. Insert the program CD into your CD-ROM drive.
2. Double-click the program icon.
3. At the launcher, click Play.

THE TLC LEARNING LAUNCHER

The TLC Learning Launcher is your gateway to *Zoombinis Island Odyssey* and other programs from The Learning Company.

If you are not yet ready to begin playing *Zoombinis Island Odyssey*, take some time to explore the other areas of the TLC Learning Launcher. The TLC Learning Launcher provides an innovative interface with convenient tools to update and organize your Learning Company educational software through The Learning Company's secure server. On the Automatic setting, the launcher asks if you would like to receive an update. On the Manual setting, click on the New! button any time you want to receive the latest updates.

NOTE: The online services advertised as part of this product may be changed or discontinued at any time.



The TLC Learning Launcher screen

My CD-ROMs Area

If you purchased and installed other products from The Learning Company, you may be able to access those products in the My CD-ROMs area.

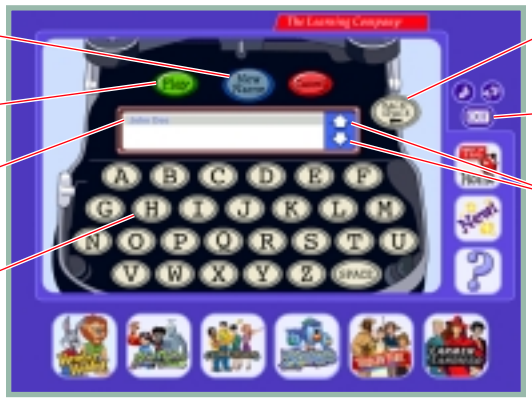
Parents Area

Go to the Parents area to learn more information about the TLC Learning Launcher. Here you can change the Launcher setting to Manual. You can also find out which products from The Learning Company are appropriate for different age groups.

TLCKids.com

In the TLCKids.com area, watch out for fun movies and demos of new products. You may also find updates that you can download for your program.

SIGNING IN



Sign-in screen

To begin your first *Zoombinis Island Odyssey* adventure, you must sign into the program and start a new game. After you have played the game, you can play an existing game or start a new one from the sign-in screen.

To start a new game:

❏ Click the New Name button to enter a new name. Type your name into the sign-in list, then click Play to begin.

To play a previously saved game:

❏ To go to a previously saved adventure and begin from where you left off when you played last, find your name on the list and click it. If you don't see your name, click the arrows on the right side of the list until you find your name. Then click Play to continue.

> **NOTE:** The sign-in list is full when it contains 99 names. To enter a new name, you must first remove a name. Click the name you want to remove, then press CTRL + R (Windows) or ⌘ + R (Macintosh). This permanently erases that player's game information from the hard disk.

❏ Click EXIT to quit the game and return to the desktop.

GAME COMPONENTS

BUTTONS YOU SHOULD KNOW

The Help Button

This button is located in the upper-right corner of each screen. This button activates a text box containing information about the objective for where you are in the game. At the activity screens, the Help button brings up a text box that gives you some clues to help you solve the activity. It does not solve the puzzle for you, but instead provides hints or tips to help you come up with a solution. Click the arrow buttons to move through the Help pages. Click the ✔ button when you are finished reading and are ready to continue your game.

The Map Button

This button appears throughout the adventure at the upper-right of the screen. Click this button to go to the Map. Be aware that if you go to the Map while playing an activity, you must start over the next time you visit the activity. However, any tokens you did get through the puzzle are moved on to the next site.

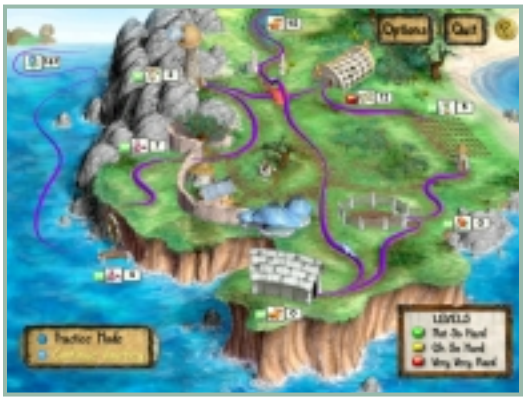
The Go Button

This green arrow is located in the upper-right corner of the screen. Click the GO button to go to the next place along your journey. If you cannot click the GO button, it means that you have not completed enough of the activity to go forward. Click the MAP button to return to Zoombiniville and bring more Zoombinis with caterpillars through the previous activities in order to continue. When the GO button highlights, it indicates that you have completed enough of the the activity to move forward, and you can click the GO button to continue with the items you have moved through so far. However, you may want to try to move forward as many items as possible before going on to the next activity. Any items that are left along the way are waiting for you at each activity when you return to bring more items through the game.

Transitions

You can interrupt the movie that plays between activities by clicking the screen to go immediately to the next puzzle.

THE MAP



The Map screen

To make your journey easier, there is a map of Zoombini Isle showing the seven different activities. At each activity location, one of the Zoombinis from the scouting party is waiting to show you the mission. Zoombiniville and the Zoombini Picker appear on the left, where you start your journey.

The map also shows how you are progressing through your adventure. A status bar for each activity is color-coded to reflect the difficulty level you have reached, and the number of items you have brought to that location is shown.

- ❏ In Practice Mode, you can click an activity to practice.
- ❏ In Game Mode, you can click any of the activities you have reached in your mission to return to them, and you can go back to Zoombiniville as well. However, you must have a least one token at an activity site to visit it. The locations you have not reached yet remain grayed-out and inaccessible.

> **NOTE:** The Greenhouse and the Corral activities require that you have at least 12 tokens there to play them, otherwise they are grayed out (not accessible). Return to a previous activity and move more tokens along until you have enough to play the activity.

Activity Status Bars

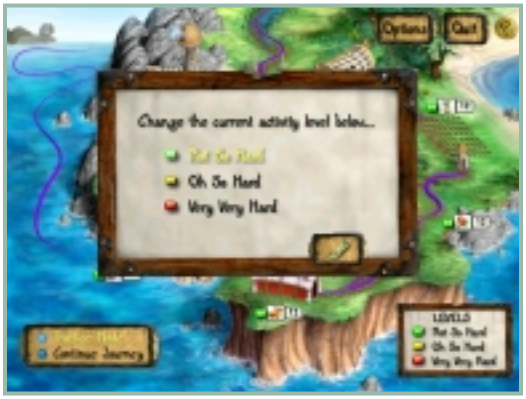
Your mission to help save the Zerbles involves moving many items around Zoombini Isle, but you can keep track of everything using the Activity Status Bars, located under each activity on the Map. The Activity Status Bar is color-coded to reflect the activity's difficulty level (see the Levels key at the bottom-right of the screen to see which level each color represents). The Activity Status Bar also shows the number of items you have brought to that location so far. Click the Activity Status Bar to change the difficulty level for that activity. (See *Levels*, below.)

The gemstone changes color to represent the level of the activity. In practice mode, click the stone to access the leveling option screen.

This icon represents the token for this activity. In this case, it's a caterpillar.

The number indicates the total number of tokens you have at this activity.

LEVELS



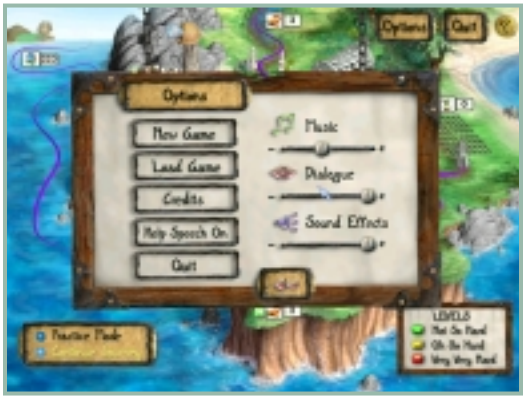
Leveling options screen

There are three levels of difficulty in *Zoombinis Island Odyssey:* Not So Hard, Oh So Hard, and Very Very Hard. When you first launch the program, you begin each activity at the Not So Hard difficulty level. The program allows you to set the difficulty level of each activity separately, using the Activity Status Bars shown on the Map.

The game automatically changes the level of difficulty for each activity after you have made a certain amount of progress. Once you achieve a more difficult level, you can manually set the difficulty level to an easier level if you prefer to play with less challenge. However, you cannot move up to a higher level until first solving a puzzle with 100% success three separate times. Once you adjust an activity's difficulty level manually, it remains at that level until you change it again manually, or until you succeed again in moving up to a new level. When you return to an activity after quitting the game or playing another activity, the difficulty level returns to the highest level you have achieved.

OPTIONS SCREEN

You can access the Options screen from the Map screen by clicking the Options button. At the Options screen, you can adjust the sound levels for the game. Also from the Options screen, you can open a new game, switch to play a different saved game, view the program credits, turn the Help Speech function on and off, or quit the program.

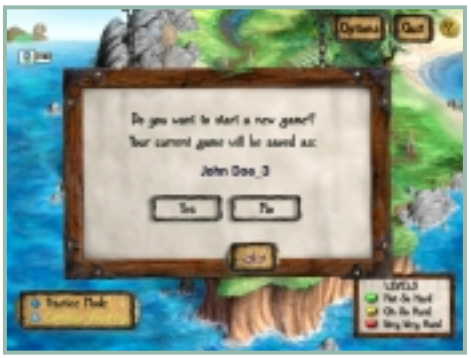


Options screen

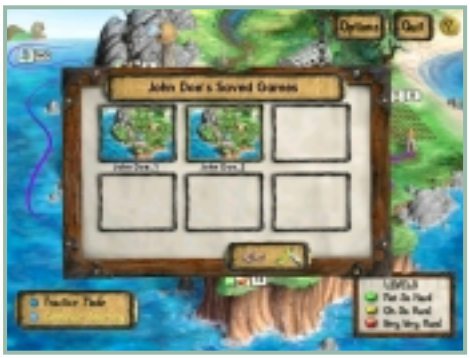
HINT: To immediately bring up the Options screen when you are playing the game, press the CTRL + O (Windows) or ⌘ + O (Macintosh).

New Game / Load Game

To save your current game and start a new game, click the New Game button at the Options screen. Click the Yes button to save your current game and go to the Load Game screen. Click the purple arrow to go back to the Options screen. At the Load Game screen, select the game you want to play, then click the ✔ button to play it, or click the purple arrow to return to the Options screen.



New game screen



Load game screen

Music / Sound Effects / Dialogue Levels

Control the settings for the game's music, sound effects, and dialogue. Move the sliders back and forth to increase or decrease the volume levels of these options. When you let go of a slider, a sound sample is played at the selected volume.

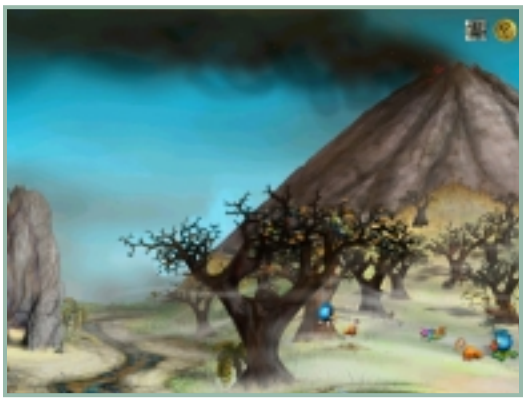
PRACTICE MODE

You can build your skills in a certain activity by playing *Zoombinis Island Odyssey* in Practice Mode, which is accessible at the Map screen. When you are in Practice Mode, you can choose to play any of the game's puzzles. The puzzle opens with 12 items already in place. Change the degree of difficulty in Practice Mode by clicking on the desired color in the Activity Status Bar. Practice at the selected difficulty level for as long as you want to sharpen your skills.

HOW TO QUIT

You can quit at any time during your game. From both the Game and Practice modes, click the Map icon to access the Map screen and click the Quit button. This quits the adventure and saves your current game. When you click the Quit button, you see the question, "Do you really want to quit?" Click the YES button to quit or the NO button to return to the Map screen to continue playing. When you quit, the program automatically saves your adventure under the name you used at the sign-in screen.

HISTORY OF ZOOMBINI ISLE & THE ZERBLES



In a time and place not too far from here, you can find a beautiful land where the Zoombinis live. While the Zoombinis look different from each other, they all live together in harmony.

One day, a seagull lands in the center of Zoombiniville to tell the story of what has happened on Zoombini Isle. Long ago, the horrible Bloats captured the island and forced the Zoombinis to leave their homeland. Now the Bloats have abandoned the island after exhausting its natural resources and leaving it a wasteland. This is sad news not only for the Zoombinis, but also for the Zerbles, the small creatures that inhabit Zoombini Isle. Surely they are affected by the Bloats devastating the land!

To investigate the situation on Zoombini Isle, a group of brave Zoombinis form a scouting party. What they find is alarming: the population of Zerbles is almost extinct. The Zoombinis discover that the Zerbles are starving because they aren't getting enough snozzleberries to eat. There is a shortage of snozzleberries because the snozzleberry plants have not been pollinated, due to the fact that the Bloats exterminated all the moths that pollinate the plants. The entire island is suffering!

The Zoombinis decide to save the Zerbles by restoring a healthy habitat on Zoombini Isle. The scouting party sends word back to Zoombiniville, asking everyone to bring the caterpillars that will become moths to start the restoration on the island. Many Zoombinis volunteer to help, and you are going to lead them on this journey!

Recruit the Zoombini volunteers to travel by ship to Zoombini Isle bearing caterpillars. Use an enormous CATAPULT to launch the Zoombinis over the cliffs onto Zoombini Isle, so you can begin to bring life back to the island. Once you're on the island, decipher the codes at the WALL to lead the Zoombinis to the tum-tum tree whose leaves feed the caterpillars allowing them to become chrysalises. Take the chrysalises to the PLANETARIUM and activate the special lighting effects to turn these pupae into moths. Lead the moths to the GREENHOUSE to pollinate the snozzleberry seedlings, and when the snozzleberry plants start sprouting, plant them with care in the GARDEN to grow and bear snozzleberries. Harvest the berries to feed to the Zerbles in the CORRAL. After you've nursed the Zerbles back to health, you can lead the Zerbles to the BARN to create new Zerble families that can flourish in the different biomes on the island. With all this accomplished, you have restored Zoombini Isle's cycle of life!

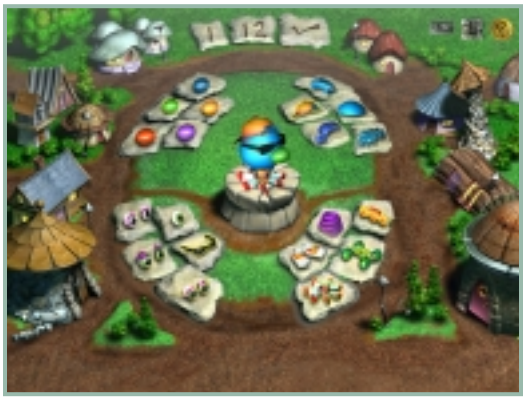
Now, let us join the Zoombinis in the quest to bring life back to Zoombini Isle…

ZOOMBINIVILLE–STARTING THE GAME

Zoombiniville's peaceful lifestyle has been interrupted by the sad story of how the Bloats have devastated the Zoombinis' ancestral land of Zoombini Isle. The Zoombinis want to restore the island to help save the Zerbles that are suffering from the destruction of their habitat. It's your mission to recruit the Zoombinis to carry the caterpillars back to the island, and then lead them through the activities to bring life back to Zoombini Isle.

HOW TO START AN ADVENTURE

Begin your journey from Zoombiniville, where you recruit teams of volunteer Zoombinis using the Zoombini Picker. Each volunteer team must have 12 Zoombinis in it to begin.



Zoombini Picker

1. Use the Zoombini Picker to select the characteristics of the Zoombinis. Click the stones surrounding the Zoombini on the pedestal to choose the different features—feet, eyes, nose color, hairstyle—for each Zoombini in the rescue party.
2. Click the ✔ button at the top of the screen and your new Zoombini joins the volunteer team.
3. Once you have 12 Zoombinis, click the GO button at the top-right of the screen and the volunteer team marches off toward its destination.

When you create the Zoombinis, remember to select a variety of features for each group. The Zoombinis value diversity: life is not as interesting when too many of the Zoombinis are the same or similar.

RECRUITING ZOOMBINIS AUTOMATICALLY

Everyone in Zoombiniville wants to help save the Zerbles, so you may want to put together a volunteer group quickly.

1. To create a Zoombini automatically, click the "1" button above the Zoombini Picker.
2. To generate an entire team at once, click the "12" button above the Zoombini Picker, and 12 Zoombinis with randomly created features are created for you automatically.

> **HINT:** If you create fewer than 12 Zoombinis and you want to generate the remaining quickly, click the "12" button and the remaining number of Zoombinis are created automatically to complete a full volunteer team.

3. Click the GO button at the top-right of the screen to set off on your journey to Zoombini Isle.

LOSING ZOOMBINIS AND ITEMS IN THE ACTIVITIES

For each mission, a Zoombini from the original scouting party is your partner in the game. The items you move through the game change for each activity. If you are successful, the caterpillars become chrysalises, the chrysalises change to moths, the moths pollinate the seedlings, the seedlings grow into snozzleberry plants that you then plant in the garden, then the snozzleberry fruits from the plants feed the Zerbles, and the Zerbles go on to breed and populate Zoombini Isle.

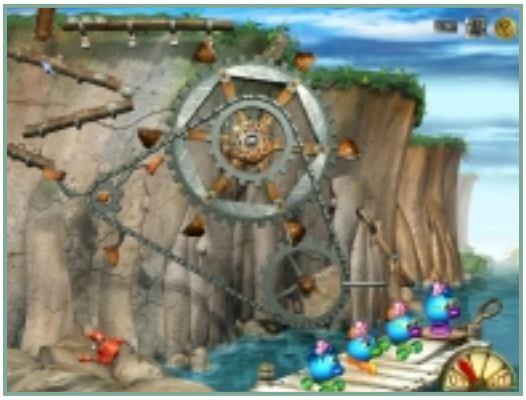
As you progress through the activities—moving items through the different locations—those items that don't make it through an activity appear to get lost. Don't worry! The items return to the activity's reservoir, where they wait until you return to play the game another time.

If you go to the Map screen while playing an activity, any items that you got through the puzzle are moved to the next location, and those that did not make it are returned to that activity's reservoir.

THE ACTIVITIES

THE CATAPULT

Across the treacherous sea they did sail…
To encounter a catapult made of iron, wood, and nails.



You've picked 12 Zoombini volunteers to set out for Zoombini Isle, each of them bearing a caterpillar. When their ship reaches the island, they are faced with sheer cliffs on the shoreline. Fortunately, when the Zoombinis' ancestors escaped from Zoombini Isle, they left behind a catapult that you can use to launch the Zoombinis over the cliffs and onto the island—if you load it properly!

HOW TO PLAY

Your goal is to load the chute so the boulders trigger the catapult and launch the Zoombinis, one at a time, onto the island, while the mudballs are sent into the two holes in the ground. Use the lever to turn the machine off and on to see how the gear machinery works. Count the teeth on the wheels to see what pattern to use when you send the mudballs and boulders through the machinery, and then check the rate that the catcher moves back and forth.

> **HINT:** Turn the machinery off while you strategize how to send the mudballs and boulders down the chute. Line up the mudballs and boulders in order, then turn on the machinery to send the items through to the catapult trigger.

Send the mudballs and boulders down the chutes to match the interval of the turning gears. First, click the mudballs and the boulders to line them up in the chute. When the machinery is running, the items zig-zag down the chute to a catcher. The catcher passes an item into a bucket on the big wheel that carries it around and drops it out the other side. If a mudball or boulder misses a bucket on the left side of the big wheel, or misses the catapult paddle on the right side of the big wheel, it falls into the water.

Try to send the boulders through the machinery to trip the catapult trigger, and try to send the mudballs into the sea. The boulders are heavy, so they trip the catapult trigger and send a Zoombini over the cliffs, while the mudballs just create a big mess.

When you launch a Zoombini successfully over the towering cliffs and onto Zoombini Isle, another Zoombini takes its place on the catapult platform. Launch all 12 of the Zoombinis onto the island before you run out of boulders, then click the GO button to continue.

Levels

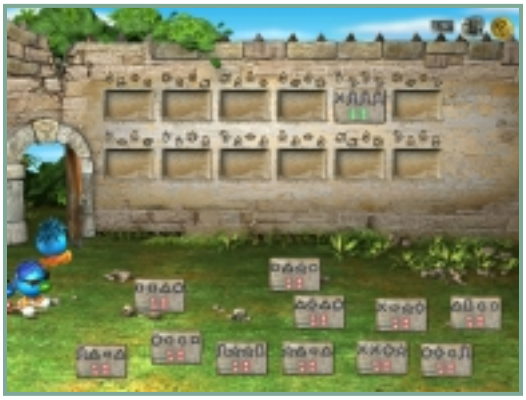
At the Not So Hard level, try to launch all 12 of the Zoombinis from the catapult before you run out of boulders. The ratio between the gears is relatively simple at this level, and any item that makes it onto the big wheel will make it to the paddle and trigger.

When you play at the Oh So Hard level, the gear ratios become more complex, and it is more difficult to bounce items off of the paddle.

At the Very Very hard level, a shoulder gear is added to the machinery, and all of the gears are connected by a chain, which further affects the gear ratios and their rates of rotation.

THE WALL

The fearless Zoombinis catapulted onto the cliffs…
…and arrived at a wall with ancient hieroglyphs.
The wall protected the towering Tum-Tum tree…
Its leaves are the nutrition that the caterpillars need.



The Zoombinis have made it up the cliffs onto Zoombini Isle, so you can begin restoring the habitat of the island. Deliver the caterpillars to the tum-tum tree, whose leaves will nourish the caterpillars and allow them to become moths. The tum-tum tree is protected by a huge wall. Decipher the code of the hieroglyphs to place the tiles correctly on the wall, and the door will open for all the Zoombinis to enter.

HOW TO PLAY

Look at the hieroglyphic characters on the wall and try to see a pattern in the images that will match with the shapes shown on the tiles on the floor. You can move the tiles around on the floor to test your ideas about the patterns.

Click a tile and place it on the wall under the hieroglyph that you think it matches. For every correct aspect of the match, up to four indicator lights flash. When you make a complete match, the tile merges into the wall and the door opens briefly, allowing one Zoombini with its caterpillar to pass through the wall. If the tile does not match, you can move it to another location.

If you successfully place all the tiles, all the Zoombinis go through to the tum-tum tree. When you make too many incorrect placements, a stone slab covers the door, and no more Zoombinis can go through the wall.

NOTE: The patterns on the wall and tiles are different each time you play this activity, and the relationship between the hieroglyphs and symbols changes each time.

Levels

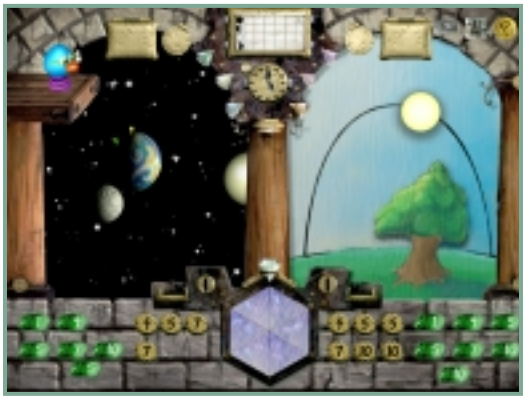
At the Not So Hard level, you can make five incorrect matches before the door disappears behind a stone slab. The symbols are arranged in groups of four, with indentations under each group where the tiles may fit. Lights flash on the tiles to indicate how many of the four aspects of the pattern match correctly.

At the Oh So Hard level, you are allowed three incorrect matches before the door disappears. The symbols appear ungrouped in a row, and the tiles can be placed anywhere in the slot under the row. At the higher levels, the indicator lights have been removed from the tiles. Extra hieroglyphs with no matching pattern on the tiles are added to make the images harder to decode and the placement of the tiles less obvious. Also, "red herring" tiles are added at the higher levels. A tile may be a match for more than one space on the wall, but only one of these spaces allows all of the rest of the tiles to be placed successfully.

The Very Very Hard level makes it even more difficult to detect a pattern, because the characters on the tiles are in groups of three, rather than four. At this level, you can make only two incorrect placements before the stone slab covers the door.

THE PLANETARIUM

The satisfied caterpillars now formed their cocoons…
…and the Zoombinis hoped they would become moths fairly soon.
They had repaired the first link of the chain that brought life…
But more work would be needed, both at "day" and at "night."



From the wall and the tum-tum tree, take the chrysalises to the old planetarium. It's time to metamorphose the caterpillars into moths. Discover the key to activating the special lighting effects at the planetarium, and you speed up the process of bringing moths to Zoombini Isle.

HOW TO PLAY

The two exhibits in the planetarium represent the movements of the Earth and the Sun. The exhibit on the left shows the Sun shining on the Earth's daily rotation from space, while the exhibit on the right shows the Sun's movement through the sky as viewed from a place on Earth.

A clock on the wall tells a specific time of day or night that you are trying to match in both the exhibits. Time-coins at the bottom of the screen are in denominations of hours. Each model advances through time by the number of hours on the time-coins as you feed them into the slot. Click a time-coin to select it, place it over the slot in its exhibit, then click again to release it into the slot.

Try to determine which combination of time-coins moves both the models through time to exactly match the time on the target clock. If you pass by the target time, a clock above the exhibit opens for a moment to show the matching time with the target clock, and a beam of light shines briefly upon the chrysalises and transforms a few of them into moths.

There are three gems around the target clock. When you feed the correct combination of time-coins into the slot to stop one of the models at the target time, a gem lights up and transforms one-third of the chrysalises into moths. If you correctly match the target time in the other exhibit, the opposite gem lights up to release one-third of the moths. Because you've solved both the exhibits, the third gem lights up as the bonus, releasing all the moths.

If you run out of coins before exactly matching the target time, you must move on with the moths you have transformed so far, leaving the remaining chrysalises behind.

Levels

At the Not So Hard level, the Sun exhibit on the right always begins at a daylight hour to make it easier to tell what time is being represented.

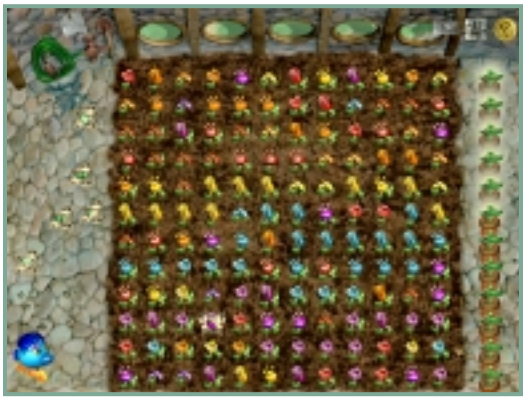
The Moon is added to both the exhibits in the Oh So Hard level. The Moon is shown in the same phase in both models, but only in its cardinal phases: new, first quarter, full, or third quarter. Notice how the same lunar phase is represented differently in the two models. While the Sun is in the same position at the same time of day, the Moon's position in the sky varies during its different phases.

The Very Very Hard level contains a lunar calendar for you to match a target date as well as a target time on the clock. The moon is shown in its 28 different phases, each corresponding with a spot on the calendar. Time-bills advance the models by days when inserted into the bill slot of each exhibit. If you insert time-bills that makes the exhibit pass the correct lunar date (no matter what time of day), a calendar in the model flashes and a few of the chrysalises become moths. Six gems surround the target calendar and clock. A gem lights up and releases some of the moths when you match the date or the time for each exhibit. If you can match the lunar dates and the times on both exhibits, all of the gems light up and all of the chrysalises become moths.

HINT: At the **Very Very Hard** level, when you advance a model by hours, it advances by a fraction of a day at the same time. Because you can advance the date beyond the desired target while trying to match the correct time, it's best to try to set the time first before setting the date.

THE GREENHOUSE

The cocoons have cracked open, the moths have flown free…
to a greenhouse growing some snozzleberry seedlings.



The moths are a key to the success of your quest to bring new life to Zoombini Isle—they can pollinate the snozzleberry seedlings allowing them to bear fruit. Enter the greenhouse, where you lead the moths down pathways of a variety of plants toward the snozzleberry seedlings.

NOTE: The Greenhouse activity requires that you have at least 12 tokens in order to play. If the Greenhouse is not accessible from the Map, return to a previous activity and move more tokens along until you have enough to play this activity.

HOW TO PLAY

Each moth is imprinted with a plant attribute to which it is attracted, and each plant contains variations of three different attributes: flower color, flower shape, and the number of leaves.

It's your mission to identify a pathway through the rows of snozzleberry plants, matching the moth's trait with the attributes of the plants. Click a moth in the launching area on the left, then click the first plant in the path with the matching traits to launch the moth into the rows of plants. If you choose the correct entry point for the moth, it flies from plant to plant to reach the other side. When a moth reaches the right side of the greenhouse safely, it pollinates a snozzleberry seedling, then flies away. Once you launch a moth on its flight-path, it cannot be removed, and it cannot be used again.

If you launch a moth down an incomplete path, it does not make it across the greenhouse because it cannot find the next matching plant on its route. A moth that cannot find a flight-path of matching traits flies in an endless loop, then returns to the puzzle's reservoir when you move on to the next activity.

NOTE: The moths cannot move diagonally, so you must plan the pathways for the moths using only north, south, east, and west directions.

Levels

The Not So Hard level already contains the pathways laid out within the rows of plants. To make sure the moth reaches the snozzleberry plant on the other side, it's best to identify the pathway through the plants first, then launch the moth at the correct starting point.

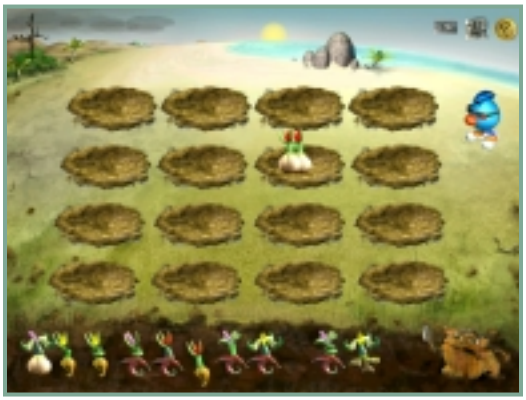
There are no complete pathways in the Oh So Hard level, so you must create flight-paths for the moths to cross the rows of plants. Use the Magic Wand that the Greenhouse Nymph has left behind to swap the plants and create pathways. Click the Magic Wand to select it. Click the first plant, then click the second plant and they switch places instantly. If you change your mind about a plant, click it again to deselect it. You have only a limited number of swaps—watch the Swap Meter so you don't run out of swaps before all the moths get through to pollinate the plants.

Use this magic tool to swap plants.

At the Very Very Hard level, wandering beetles enter the greenhouse to make the journey of the moths through the plants more difficult. The beetles must pass freely down through the plants or they block the flight-paths of the moths. They also travel along pathways of plants having similar traits. Try to keep their vertical pathways clear while you swap plants, or the beetles clog the path until you clear their way by swapping more plants. In addition, at the Very Very Hard level, there are more plant attributes, making the correct pathways even harder to create.

THE GARDEN

The seedlings must now be carefully planted.
So, the Zoombinis searched for a nice spot with some shade…
…and happened upon a tree trunk with a spade.



The snozzleberry plants have been pollinated by the moths so they can bear the fruit that the Zerbles need to survive. First, you must plant the seedlings in the garden before sunset to allow them to grow their snozzleberries. Arno the Tree Stump arrives to give advice on where to plant the snozzleberry seedlings, and he's very picky about their arrangement.

HOW TO PLAY

Try to plant all the snozzleberry plants into the holes in the garden before nightfall. Each plant is made of four different parts: roots, stalks, leaves, and flowers. You can arrange the snozzleberry plants in the holding area if you wish. Click a snozzleberry plant to select it, then click a hole in the garden to plant it. Click another plant, then click the first hole, or—depending on the snozzleberry's features—select a different hole for it.

If you select the correct hole to plant the snozzleberry plant, it sticks in the ground. If it doesn't belong in the hole you select, Arno bellows his disapproval. The rejected snozzleberry plant bounces out of the hole, and the sun descends a notch in the sky. When you plant all the snozzleberry plants correctly, they grow quickly and are ready to yield their snozzleberries.

Levels

When you begin at the Not So Hard level, the garden contains only four holes, with each hole corresponding to one of the traits of the snozzleberry plants. You're allowed five incorrect placements before the garden shuts down for the night.

There are 16 holes at the Oh So Hard level, which makes matching the snozzleberry plant traits to the holes more complicated. The snozzleberry plant's traits must match across the rows and down the columns of holes in order to be planted correctly. You can make 10 incorrect planting attempts before the sun goes down on the garden.

At the Very Very Hard level, the garden contains four plots, each made of 16 holes, adding a new dimension to the garden plan. When selecting the snozzleberry plants for planting, you need to note the position of the plant in each plot, as well as arrange certain traits by row and column. You're allowed 10 incorrect planting attempts before the darkness falls and the garden shuts down.

THE CORRAL

The pollinated seedlings when planted with care;
Produced bushels of fruit for the Zerbles to share.
But the Zerbles are cautious about which fruit is right.
So the Zoombinis must coax them into the light.

Now that you have cultivated a variety of snozzleberries, you have food for the Zerbles to make them strong and healthy once again. But the Zerbles are shy and they are very fussy eaters. As hungry as they are, the various Zerbles eat only certain snozzleberries. But you have special light projectors to lure the Zerbles into the corral toward the snozzleberries they prefer to eat.

NOTE: The Corral activity requires that you have at least 12 tokens in order to play. If the Corral is not accessible from the Map, return to a previous activity and move more tokens along until you have enough to play this activity.

HOW TO PLAY

Use one of your light projectors to send down a beam showing a trait of the snozzleberry. Each projector transmits one aspect of the snozzleberry—either its shape, color, or leaf shape. Click one of the 12 snozzleberries in the holding area to select it, then click a projector tray in one corner of the screen to beam down the snozzleberry trait onto the corral floor.

The beam of light attracts all the Zerbles that like that type of snozzleberry trait. You can offer a snozzleberry to the Zerbles in this beam of light: click the snozzleberry, then click a Zerble. However, a Zerble is so picky that it eats only a snozzleberry that contains at least two of its favorite traits. When you offer exactly the right snozzleberry to a Zerble, it takes it from you, and happily trots off toward the barn to eat. When you try to feed an incorrect snozzleberry to a Zerble it spits it out, and that berry may no longer be used.

Select another snozzleberry and use another projector to beam a different trait onto the corral. The two beams overlap to create an area representing snozzleberries containing both aspects being projected. The Zerbles that eat snozzleberries with those two traits move into this overlapping loop of light so you can feed them properly.

Remove a snozzleberry from a projector and replace it with another to attract different Zerbles into the light circles. Discover which Zerbles come running for specific combinations of projected traits. Your goal is to use the light projectors efficiently to feed each Zerble the correct snozzleberry.

Levels

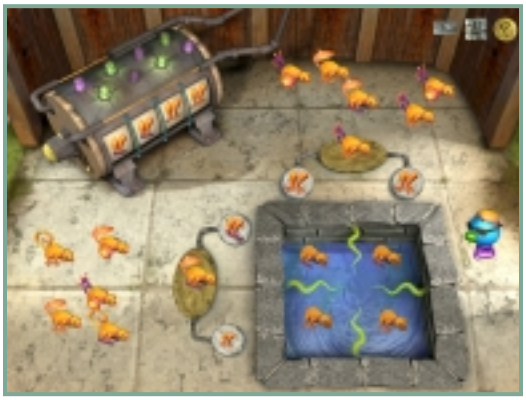
When you begin at the Not So Hard level, each Zerble is attracted to two favorite snozzleberry traits and the corral has two projectors, allowing you to beam down two different aspects of the snozzleberries. You can use the projectors nine times before you run out of light beams.

There are three projectors at the Oh So Hard level, each sending down a beam representing color, shape, or leaf type. These beams create overlapping loops of light that become seven different areas for the Zerbles. At this level, the Zerbles have three favorite traits, so you receive the best information when a Zerble enters the center area of the three overlapping beams of light. Try to lure all the Zerbles using different combinations of beams, but you run out of light if you exceed eight attempts with the projectors.

At the Very Very Hard level, the three projectors no longer show you which trait is being beamed onto the corral floor. Watch the number of Zerbles that are attracted to each overlapping loop of light to figure out the right type of snozzleberry to feed to a Zerble. You're only allowed to project seven beams before you run out of light and the Zerbles all scamper away.

THE BARN

The snozzleberries were eaten; the Zerbles were well-fed.
Onward, Zoombinis, for the barn lies ahead.



The Zerbles are fed and healthy, and they're ready to repopulate Zoombini Isle by having babies. Zoombini Isle has three different regions where the Zerbles can live: desert, forest, and wetlands. The Zerbles have varying kinds of feet—wheel, claw, or pontoon—to enable them to live in a particular environment. Your goal is to pair up the female and male Zerbles and send them into the wild to produce young that have the desired feature for each region. Each set of parents produces four babies.

HOW TO PLAY

In the barn, a machine at the upper-left of the barn spins to show the desired traits of the Zerble offspring. The parent Zerbles may pass on to their young the same features they exhibit (dominant traits), but they may also carry a different trait from one of their ancestors (recessive trait). Click one of the Zerbles from one of the holding areas of the barn, and click again to place it on the large stone at the edge of the Magic Pool. At the NOT SO EASY level, an x-ray stone flips over to reveal this Zerble's dominant and recessive traits.

To create a pair, select another Zerble from the other holding area and place it on the second stone. The other x-ray stone shows this Zerble's traits. When you choose the second Zerble to pair with the first, the Magic Pool's reflection image displays the features that four offspring of the two Zerbles will have. If the features do not match the traits shown on the machine, you can try different Zerbles to make the correct match, but each time, you use some of the Magic Pool's precious water. Select all your pairs of Zerble mates before the pool runs out of water and before you run out of Zerbles.

NOTE: Remember that each pair of Zerbles must be made up of one from the left holding area and one from the upper holding area. Use these areas to arrange the Zerbles according to their traits.

When you match a pair of Zerbles that can produce offspring to match the machine's target, the machine rings and lights up, and the soon-to-be parents walk out of the barn to begin their new family in the biomes of Zoombini Isle. Then the machine spins again, showing you the desired traits for the offspring of the next pair of Zerbles. Once you have finished making pairs of Zerbles, press the GO button to visit the island's biomes and observe the new Zerble families in their natural habitat.

LEVELS

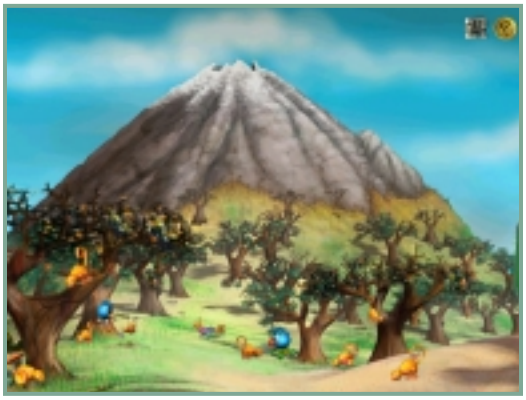
At the Not So Hard level, if you start with 12 Zerbles, you are allowed eight incorrect pairings of Zerbles before the Magic Pool drains of its water. When you begin the activity with fewer than 12 Zerbles, you have fewer attempts to make your pairs before you run out of water in the Magic Pool.

When you reach the Oh So Hard level, the x-ray stones have been removed, so you can use only the information from the image in the Magic Pool to make your selection of Zerble parents. When you begin with 12 Zerbles, you have eight attempts to create Zerble pairs whose offspring match the machine's target before the Magic Pool drains of water, and you have fewer chances if you start with less than 12 Zerbles.

At the Very Very Hard level, when you begin with 12 Zerbles, you can make only six incorrect pairing attempts before the Magic Pool drains of water, with fewer attempts allowed if you start with less than 12 Zerbles. At this level, the traits shown in the machine are tails. Now, you need to pair the Zerbles according to their tails instead of their feet, using only the Magic Pool's image of the Zerble offspring in order to make your pair selections.

ZOOMBINI ISLE VIEW—THE BIOMES

My my, the Zerble population seems to be growing. The plan is working! Zerbles!



Watch as Zoombini Isle begins to thrive, and follow the Zerble families growing in their new environment.

After you return some Zerbles into the wild, you can visit them in different biomes (climatic regions) of Zoombini Isle. The mated Zerbles live and have their families in the area best-suited for their traits, either the coastal wetlands, the lush forest, or the inland desert.

To go to the Zoombini Isle view, click the two columns and the overpass on the Map. As you move your cursor to the left or right, the screen scrolls in that direction to show you the different biomes. Check on the Zerbles and their offspring, and see how they are surviving as time passes.

At first, the entire island is a wasteland, caused by the Bloats and their destructive lifestyles. As you continue to make your way through the different activities, you are returning the island's natural cycles and wildlife. Watch the island's biomes begin to thrive—you are bringing it back to life! Eventually, you can set free all the Zerble pairs into the wild to create healthy families frolicking in the beauty of a restored Zoombini Isle.

PARENTS' CORNER

Welcome to the Parents' Corner! You will find information and suggestions here that will help you and your child make the most of the learning opportunities in *Zoombinis Island Odyssey*.

Zoombinis Island Odyssey is an engaging game that provides a rich learning environment. This game reflects the belief that thinking and the pleasure of insight are important rewards. These kinds of rewards are different for every individual. For this reason, the game does not hasten children along a predetermined learning path. Instead, it allows children to choose the focus of their attention, the difficulty of the challenge, and their own definition of success. The game presents interesting objects to manipulate and challenging situations with which to cope. Children invent their own ways of making sense of the situations and developing strategies, and in this way initiate and advance their own learning.

Zoombinis Island Odyssey is a challenging game. It is normal for a child to experience some difficulty in solving the puzzles, even at the beginning level. However, it is this very challenge that inspires logical thinking and engages children in the problem-solving process. Children must be thoughtful in their attempts, and over time discover the rules and logic in a puzzle. Finding solutions can be especially rewarding when children have used their thinking skills to overcome obstacles on the path to success.

The following sections describe the mathematics and science of *Zoombinis Island Odyssey*, along with educational benefits, puzzle-solving strategies, and ideas for enriching and extending the learning in the game. As you and your child explore the program, you will discover that the seven puzzles, each with three levels, work together to introduce and reinforce important mathematical skills and science concepts.

THE MATHEMATICS OF ZOOMBINIS

The mathematics of *Zoombinis Island Odyssey* is the math of the information age. It is the math children will use in writing computer programs, solving complex problems, organizing data in spreadsheets, and searching for information on computer networks. But it is also math that children can apply to problem-solving situations in all areas of their lives, through logical thinking, experimenting, and organizing information.

MATHEMATICAL CONTENT

The mathematical content of *Zoombinis Island Odyssey* focuses on data and information:

- ❑ data representation
- ❑ attributes
- ❑ permutations
- ❑ categories
- ❑ organizations
- ❑ mappings
- ❑ sequencing
- ❑ algorithms
- ❑ algebraic thinking
- ❑ operations
- ❑ ratios

The importance of the mathematics of data has increased as computers and information processing have become more prevalent in our society. Engaging children in this content may help form the building blocks for working with this kind of information in the future.

The mathematical content of the program is partially based on the attributes or features of plants and animals in the game. When your child works with attributes, he or she is working with variables or quantities of data—the building blocks of mathematical equations. Knowing how to solve for variables and combine them to form equations are crucial skills in mathematics. *Zoombinis Island Odyssey* provides an innovative way of gaining experience with attributes in the problem-solving process.

SCIENCE CONTENT

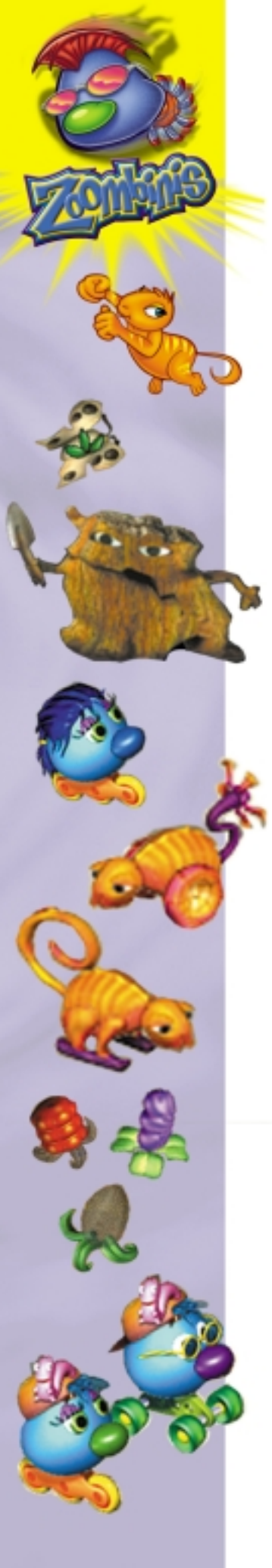
- ❏ astronomy
- ❏ plant anatomy
- ❏ mechanics
- ❏ genetics
- ❏ cryptography
- ❏ plant and animal life cycles

Zoombinis Island Odyssey introduces rich science content and uses it as a foundation for the story and puzzles. The central theme of the game revolves around repairing the broken chain of life on Zoombini Isle, and the player's final goal is to repopulate the island with the resident animals, the Zerbles. To achieve this, the insect (moth) and plant (snozzleberry) population must first be restored. In this way, children learn about the inter-connectedness of all participants in an environment, and how every part of the chain must be intact to ensure the health of the entire system.

In the child's quest to restore the Isle, he or she is introduced to interesting elements of life science, mechanics, astronomy, and genetics, all within the fantastic world of the Zoombinis. While each puzzle is essentially a logical challenge that requires mathematical and scientific thinking, many of the situations are based on actual principles of science. Examining the rotation of gears in the catapult; studying the movement of the Earth, Sun and Moon in the planetarium; helping the moths pollinate the snozzleberry seedlings in the greenhouse; or studying the genetic make-up of the Zerbles in the barn. In all of these cases, the child is learning about actual elements of science.

MATHEMATICAL AND SCIENTIFIC THINKING

Helping children develop and apply thinking skills is a primary focus of *Zoombinis Island Odyssey*. The program doesn't tell children what to do—it gives them the freedom to explore each problem or puzzle and invent a solution. The game rewards logical reasoning and insight, and the greatest successes come not to those who act most quickly but to those who act most thoughtfully. This is the process of mathematical and scientific thinking: organizing information in relevant ways, reasoning about evidence, and testing in a systematic manner. In this way, children develop skills used by mathematicians and scientists.



ORGANIZING INFORMATION

Organizing information in this game includes noting the goal, the number of tokens present, the function of objects in the scene, and how each element figures into the solution. Moving and arranging plants into groups with common traits is an example of effective organization. Mentally arranging the elements in a scene, followed by carefully observing the effect of each action, helps develop data that can be used to formulate a solution.

REASONING ABOUT EVIDENCE

Experimenting and then considering the resulting evidence is an essential part of gameplay in *Zoombinis Island Odyssey.* In many puzzles, the player will initially make a number of unsuccessful attempts; however, these attempts provide the very information needed to solve the puzzle. New insights are gained, and some choices can be eliminated while others will be identified as reasonable. Relationships, patterns, and groupings become evident based on feedback from each attempt. In gameplay, as in life, valuable information can be attained from all efforts, even when they do not result in immediate success.

SYSTEMATIC TESTING

Because most of the puzzles allow a limited number of tries, developing trial and error skills is essential to success in *Zoombini Island Odyssey.* Players that test their hypotheses in an efficient manner will be rewarded with greater success. Random guesses will yield initial information, but over time it is beneficial to formulate a system for testing ideas.

THE PUZZLES: EDUCATIONAL BENEFITS AND PUZZLE-SOLVING STRATEGIES

There are seven puzzles in *Zoombinis Island Odyssey*, and each one challenges the child to employ logical reasoning and problem-solving skills: identify the problem or goal, develop hypotheses that can be challenged using systematic testing, and arrive at a solution. Students can interact with puzzles at several levels:

- ❏ simple trial and error
- ❏ developing some explanations for how the puzzle behaves
- ❏ actively choosing one's moves in order to find the best evidence

At all of these levels, the player is applying thinking skills and receiving feedback from puzzles. The highest level (actively strategizing for the best evidence) is true scientific thinking. *Zoombinis Island Odyssey* creates an environment where this kind of thinking is encouraged and rewarded.

THE ZOOMBINI PICKER

As in prior Zoombini games, before beginning a journey, players are able to select the specific features for each Zoombini at the Zoombini Picker. However, while each team of Zoombinis still sets off on a mission, the Zoombini attributes themselves have no bearing on any of the puzzles. The child is still being introduced to the general idea of attributes and features that they encounter when sorting plants and animals later in the game, but the specific composition of the Zoombinis is never used as a basis for any puzzle.

THE CATAPULT

- ❏ understanding ratios
- ❏ planning
- ❏ observation
- ❏ sequencing
- ❏ recognizing patterns
- ❏ experimenting with mechanics and motion

This first puzzle introduces children to certain principles of mechanics, in the form of gears and ratios. Each gear in the large machine moves at a different rate, depending on its structure, but all of the gears are connected. The player's primary challenge is to understand the ratios that are in place. For example, does the machine send every object to the catapult trigger, every other one, every third? Deciding this requires careful examination of the machine and the relationship between the gears, and players may begin to discover that the number of teeth on each gear determines its rate. One must also pay attention to the cam inside of the last gear; the cam's shape determines how often the catapult paddle changes position.

Even after discovering the ratios, the player must then employ effective sequencing to place the correct alternating pattern of boulders and mudballs into the chute. At the Not So Hard level, the ratios and patterns are clearer, and sometimes require relatively simple patterns (such as ABABAB) in the chute. At the Oh So Hard level, these ratios become more complex. At the Very Very Hard level, a large chain links all three of the gears and again changes the ratio; at this level, the big wheel now rotates twice as fast.

Players may initially find simple trial and error a useful strategy, to learn how the machine works and the rate at which objects are carried along. Players can experiment with the mudballs first to determine a pattern before using the precious boulders. Players will also find it helpful to observe the machine carefully for a time, then stop it at an appropriate place before filling the chute with objects. Even as they lose some objects down the holes due to an incorrect sequence, players can benefit from observing these unsuccessful attempts and rethinking their patterns.

THE WALL

- ❏ mapping
- ❏ recognizing patterns
- ❏ cryptography
- ❏ forming and testing hypotheses

This puzzle is similar to a cryptogram, in that the player must determine the relationship between two different sets of symbols: the hieroglyphs etched into the wall and the pictures on the tiles. The player must begin to "break the code" by first discovering at least one set of symbols that match, then using this information to develop hypotheses about other matches. Part of this challenge is to identify similar patterns common to both sets of symbols. For example, for a set of four symbols that includes three cows positioned next to each other, a player can reasonably conclude that the correct match will be a tile that has three identical symbols on it. Once a few matches have been made, corresponding tile symbols for other hieroglyphs become clear, both by their appearance and by their relative positions on the wall.

The Oh So Hard and Very Very Hard levels challenge the player to identify matches without the benefit of set positions on the wall. The player must now look at a long string of symbols and find appropriate placements. In addition, these levels introduce "red herrings": a tile may be a match for more than one space on the wall, and only one of these positions will allow the rest of the tiles to be placed. The player must now plan ahead more thoughtfully, and is best served by locating these red herrings before placing any tiles. When a red herring is identified, it is usually advantageous to leave the corresponding tile on the ground until all others have been placed.

The thinking involved in the puzzle reflects the kinds of challenges faced by scientists: first solve one aspect of an unknown pattern, then gradually develop conclusions through experimentation to decipher an entire code.

THE PLANETARIUM

- ❏ modular arithmetic
- ❏ spatial reasoning
- ❏ forming and testing hypotheses
- ❏ sequencing
- ❏ comparing
- ❏ astronomy

The Zoombinis arrive at the planetarium with the caterpillars, which have now formed cocoons to become pupae. This stop on the journey introduces the player to another key piece in the restoration of the chain of life. In addition, it demonstrates the process of metamorphosis—successfully completing the puzzle results in the caterpillars emerging from their cocoons as moths.

The planetarium puzzle itself is founded on principles of astronomy, and engages the player in a puzzle about time as represented by the relative movement and rotation of the Earth, Sun, and Moon. The planetarium reinforces the fact that hours and days are merely numerical representations of actual planetary and lunar cycles. The exhibits provide two unique views: the Earth as it spins on its axis, and the Sun as it is viewed from a place on Earth. In addition, the Moon is sometimes displayed in both perspectives; at the highest level, the puzzle demonstrates how the phases of the Moon relate to days on Earth.

Spatial reasoning is important for recognizing that specific positions represent certain times. While each exhibit can help a player understand the other, at the beginning of the puzzle, each represents a different time of day. In the right-hand exhibit, many players will know intuitively that the Sun is at 12:00 noon when it is at the top of its arc; but determining the exact time shown by other positions is a challenge. This is especially true for the 12 hours that the Sun is hidden as the Earth rotates and it becomes night. Similarly, for the left-hand exhibit, a player must learn to associate specific positions in the Earth's rotation with certain hours of the day.

Once a player begins to understand how each exhibit represents a particular time of day or night, he or she actually uses basic arithmetic to solve the puzzle. The coins on the ground advance the Sun, Earth, and Moon by the number of hours shown. The player's challenge is to determine how many hours an exhibit should be moved forward, and then decide which combination of coin values will accomplish this. At the Oh So Hard level, this becomes more difficult, as the coin values are more limited. If an exhibit is only one hour from the target time, because there are no "1" coins, the player must feed coin values that add up to 25 to land on the correct time.

At the Very Very Hard level, a lunar calendar is introduced. Now the player must take into account the twenty-eight phases of the Moon, and try to make the exhibits match both the hour on the clock and the day shown on the lunar calendar. There are now bills available, which will move an exhibit forward by 24-hour periods. It is in the player's best interest to match the time first, and then the day.

THE GREENHOUSE

- ❏ observation
- ❏ comparing
- ❏ recognizing and forming patterns
- ❏ mapping

As children search for paths through the field of plants, they selectively pay attention to one particular attribute at a time—a good introduction to pattern recognition. Careful examination will reveal several different patterns based on flower shape, flower color, and number of leaves. The challenge is to identify a consistent path across the field based on one particular feature, and then identify the moth that can successfully navigate this path based on the trait shown on its back. Because the plants have several different attributes, a particular plant often can be useful in more than one path.

At the Oh So Hard and Very Very Hard levels, the player is faced with incomplete paths, and must create successful ones by swapping plants with the Magic Wand. But with each swap used to make a new path, another path may be eliminated. The player must plan several steps ahead to decide which plants should be moved to create new paths most effectively while maintaining old ones—all the time using the Magic Wand efficiently so as not to run out of swaps. Careful observation and logical reasoning are important aspects of this process. Studying the specific traits shown on the moths, and relating this to the types of partial patterns evident on the field can be an effective strategy.

This puzzle also introduces the child to the concept of pollination, a crucial part of plant reproduction facilitated by various insects, including some moths, bees, and butterflies. As the moths cross the field, they pick up pollen from the plants and transfer it to the waiting snozzleberry seedlings at the other side. This process initiates the eventual bearing of seeds (fruit) by the now-pollinated snozzleberry plants.

THE GARDEN

- ❏ considering multi-dimensional arrangements of data
- ❏ sorting and grouping by attribute
- ❏ mapping
- ❏ forming and testing hypotheses

The garden is a puzzle that introduces mapping or arranging data dimensionally. Certain features can be arranged along a dimension in the garden: for example, all yellow flowers in the first row, or all onion-shaped roots in the first column. At the same time, within these dimensions a player must recognize specific rules for how plants can be grouped to share the same hole. At the Not So Hard level there is only one dimension (a row), and each time the player must determine the key feature in order to sort the plants. The Oh So Hard level involves two dimensions (rows and columns), and the Very Very Hard level introduces a system for mapping three dimensions on a two-dimensional background.

To complete the puzzle, the player must also have a strategy for testing hypotheses. For example, players may choose to place a particular plant to test whether or not a certain feature is arrayed on the horizontal dimension (a row). As with other puzzles, each incorrect try yields valuable information about the organizing rule.

This puzzle also provides an implicit introduction to plant anatomy. The parts of plants (root, stem, leaf, and flower) are the attributes used in the puzzle. As they consider how to group and arrange the plants by these attributes, children also become familiar with plant structure.

THE CORRAL

- ❏ set recognition
- ❏ collecting evidence
- ❏ comparing
- ❏ forming and testing hypotheses
- ❏ observation

The player reaches the corral with a recently cultivated batch of snozzleberries and can now begin to feed the Zerbles to restore their health. This puzzle essentially introduces the player to a sophisticated Venn diagram. The circle of light from each spotlight is a loop in the diagram. Players must learn to read and use the loops as a representation of sets and their attributes.

Each spotlight will highlight a certain attribute, such as the berry's color. Depending on the kind of berry placed on the spotlight tray, the player can then deduce one of the features preferred by the Zerbles that enter this circle. But because Zerbles are always attracted to more than one trait, the player receives the best information when using both spotlights to lure at least some Zerbles to a spot within two overlapping circles. This means that they are attracted to both traits.

At the Oh So Hard level, there are three spotlights available and Zerbles have three favorite traits. In addition, the number of times the spotlights can be turned on is more limited. Players must be strategic in their tries, and this requires carefully examining the kinds of traits displayed by the various snozzleberries before using the projectors. It can be beneficial to arrange the snozzleberries first into groups based on common characteristics. This is especially true at the Very Very Hard level, when the spotlights no longer highlight a particular attribute.

THE BARN

- ❏ observation
- ❏ comparing
- ❏ recognizing sets
- ❏ forming and testing hypotheses
- ❏ sorting
- ❏ genetics

As the final step in the mission, the player must help pair Zerbles who will produce a certain type of offspring. Here the player is introduced to an important concept of life science: all organisms have certain adapted traits that allow them to survive in a particular environment. In this case, the Zerbles will be returning to the three biomes of Zoombini Isle, and certain Zerble traits are especially well suited for specific biomes.

The barn puzzle itself is about the mathematical structure that underlies genetics. To find the right pairs of Zerbles, the player must learn how the combination of traits in parents results in the appearance of particular kinds of traits in the offspring. When the player places two Zerble parents on the large stones, the predicted babies are shown in the "gene pool." The pool resembles a Mendel Square, which is the standard representation used to show the outcome of genetic crossing. Each quadrant in the pool shows the crossing of two Zerble traits. Depending on the Zerbles that are placed on the stones, the displayed traits may be dominant or recessive. The traits have a "rock-paper-scissors" relationship, in which each trait dominates one, and in turn is dominated by another. The player must determine this pattern by observing the traits that appear in the pool.

At the Oh So Hard level, the player can no longer see the parents' dominant and recessive traits on the small stones. Experimentation and thoughtful analysis of the offspring is necessary to develop some hypotheses about the pattern being used each time. At the Very Very Hard level, the Zerble's feet are no longer important; now the player must pair Zerbles according to their tails.

Your child does not need to understand genetics to solve the puzzle, as it is essentially a thinking challenge. Yet, in the process, the child may still become familiar with the concept of genetics and the way in which all animals carry unseen traits, and how these can manifest in their young. Any child who has seen the variety of fur colors displayed in a litter of kittens, even when both parents had the same color fur, may benefit from observing how this puzzle works.

ENRICHING YOUR CHILD'S LEARNING EXPERIENCE

Taking an active interest in your child's learning activities often reinforces their enjoyment and skill development. For example, it has long been known that children whose parents regularly read to them become better readers. Being an enthusiastic and interested participant in the game may help inspire your young learner to build critical-thinking skills.

In addition, children are likely to learn more if they have opportunities to talk about the game with friends and family. Sharing ideas with other players can open up new possibilities and perspectives. Putting their explanations and strategies into words will encourage deeper thinking and help children consolidate their understanding of the game.

GETTING INVOLVED

Try playing the game yourself. Attempting to solve the puzzles will help you understand and appreciate the kinds of thinking that your child is doing. Don't be surprised if the puzzles are difficult at first for you as well. There is actually a great opportunity here—your child can learn a tremendous amount by teaching you! Discussing ideas may help the child bring these ideas into focus, and help articulate his or her understanding.

Watching you play and listening to you think aloud will also help your child learn new strategies. Neither you nor your child should expect to know the answers right away. Players will learn a lot by following wrong paths and making errors. The key to solving the puzzles is in how you evaluate the evidence revealed by incorrect attempts. Much of the excitement in the game is in developing a strategy that consistently lets you succeed at a puzzle. Even then, solving the puzzle each time may result in new insights for you and your child to share.

WHEN THE GOING GETS TOUGH

Sometimes a puzzle or a new difficulty level can seem especially challenging, and your child may want your help. Sit with your children as they play, and listen as they explain the problem. As they make an attempt, ask them what they notice about the feedback they received from the program. You may want to help them further, by asking questions that might draw their attention to useful clues in the scene, or by subtly suggesting a few moves. Without actually revealing the answer, you can help guide your child toward recognizing a successful path.

At the earlier levels of play, children may have become accustomed to "beating" puzzles by getting all the tokens through. When a child moves up a level and faces harder challenges, trying to "beat" the puzzles may not be a practical goal right away. Instead, it is time to take risks and experiment in order to collect clues. This requires patience and more thoughtful trial and error. Every unsuccessful attempt adds to your child's base of information about the way the puzzle functions.

If your child is still feeling uncertain or feels frustrated about a specific puzzle, there are a couple of things your child can do:

- ❏ Take a break from that puzzle for a while by visiting a different site on the map. Playing another activity may yield insights that can be applied when your child decides to try the puzzle again.
- ❏ Play quickly, enjoy the game, and don't worry about solving the entire puzzle. Even when a puzzle seems very difficult, you can often get at least a few tokens through to the next scene.
- ❏ If at a higher level, return to a lower level (or use Practice mode), and play the puzzle again to experience success and re-build confidence. Then try the harder level again, and apply strategies used while solving the lower level.
- ❏ Encourage your child to play with a friend or family member. The game is designed to accommodate multiple players and cooperative turn taking, and the conversation that naturally occurs between players will help develop better understanding.

ENCOURAGING YOUR CHILD'S PROGRESS

Your child's mastery of successive levels of the game is one clear indication of progress. But the child who can move some tokens through the game, even without advancing to new levels, is also learning the content and applying thinking skills. Perhaps your child was only originally able to move three tokens through a puzzle at the Not So Hard level, but now gets six through. Your child has begun to understand the rules of the puzzle.

Listen to your children talk about the game. Are they involved and engaged in the puzzles? How do they explain the behavior of the program? How well do they explain their own strategies? Do they see interesting connections between the game and the problem solving they do in school or elsewhere in their lives? These conversations help reveal that your child is learning and applying the skills they have practiced in the game.

Remember that your child's problem-solving skills are constantly developing and growing. Certain ideas take root gradually, and improvement can occur in small bursts.

MAKING CONNECTIONS TO THE GAME

As in the puzzles in *Zoombinis Island Odyssey,* many things in our everyday lives require logical thinking and problem-solving skills. Encourage your child to think of ways that the tasks faced by the Zoombinis mirror everyday issues. Your child may make other connections to the game's characters or story that do not appear to be mathematical in nature but nevertheless are important to them. Any fantasy play or storytelling about the game should be encouraged, as it reinforces engagement in the game which ultimately helps your child master the mathematical and scientific ideas.

EDUCATIONAL RESOURCES

FOR CHILDREN

Anderson, Karen, ed. *GAMES Magazine Junior Kids Big Book of Games*, 1990. A collection of creative verbal, visual, and logic puzzles. Includes mazes, riddles, and teasers.

Anno, Mitsumasa. *Anno's Math Games III.* New York: Putnam, 1999. Contains a variety of puzzles for younger children involving classification, sequencing, measuring and more.

Tang, Greg. *The Grapes of Math.* Scholastic Press, 2001. Math riddles that encourage children to engage in problem solving, grouping, and critical thinking.

Burns, Marilyn. *The Book of Think.* Little Brown and Company, 1976. A collection of puzzles and thinking activities that challenge children to use problem solving skills.

Zoombinis Logical Journey,™ CD-ROM, The Learning Company, 2001. The original math and logic software adventure of the Zoombinis.

Zoombinis Mountain Rescue,™ CD-ROM, The Learning Company, 2001. The second software title in the Zoombinis series.

FOR PARENTS

Burns, Marilyn. *Math for Smarty Pants.* Boston, MA: Little, Brown and Company, 1982. Explores various aspects of mathematics and shows that different people are good at different things.

National Council of Teachers of Mathematics. *Curriculum and Evaluation Standards for School Mathematics.* Reston, VA: NCTM, 2000. Developed over several years with input from parents, teachers, mathematics education researchers, and mathematicians, this NCTM document summarizes goals for mathematics taught in kindergarten through grade 12.
Visit: http://standards.nctm.org

Papert, Seymour. *The Children's Machine: Rethinking School in the Age of the Computer.* BasicBooks, 1993. Offers a thoughtful perspective on the educational value of computers.

Seymour, Dale. *Critical Thinking Activities in Patterns, Imagery, and Logic*. Dale Seymour Publications, 1988. Offers a variety of worksheets with engaging problem solving and thinking activities.

Stenmark, Jean Kerr, Virginia Thompson, and Ruth Cossey. *Family Math.* Berkeley, CA: Lawrence Hall of Science, 1986. An excellent collection of math activities emphasizing the development of problem-solving skills and the use of hands-on materials to gain mathematical understanding.

Zawojewski, Judith S. *Dealing with Data and Chance.* NCTM publication, 1991. Considers children's natural understanding and daily use of data and chance and then addresses how to build on these natural abilities. Contains activities designed for classroom or home schooling environments illustrating the themes of data gathering, communication, problem solving, and logical reasoning.

http://www.nctm.org/publications
Provides an extensive list of journals and books about mathematics in education.

MATH-RELATED ORGANIZATIONS

Contact these organizations to receive more information that will support your involvement in your child's math education.

National Council of Teachers of Mathematics
Membership Services and Information
1906 Association Drive
Reston, VA 22091
http://www.nctm.org
E-mail address: nctmath@tmn.com

EQUALS ("FAMILY MATH")
Lawrence Hall of Science
University of California, Berkeley
Berkeley, CA 94720
Equals program: (510) 642-1823
Internet: http://www.lhs.berkeley.edu/equals/equals.html

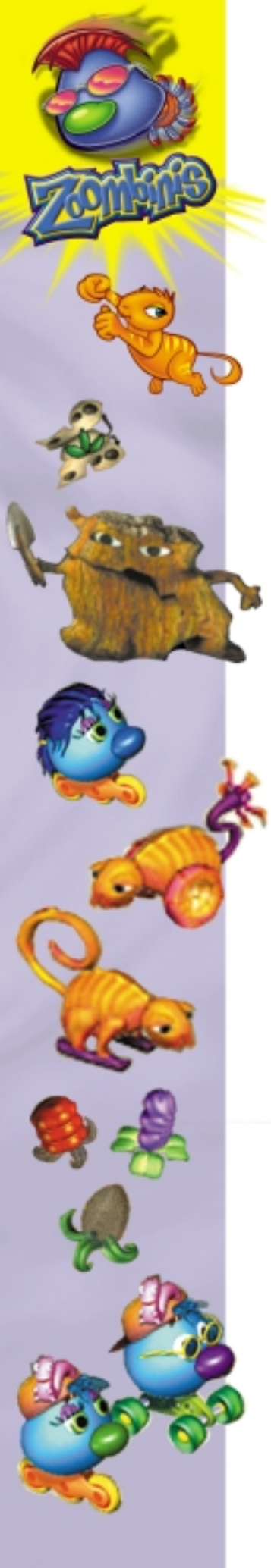
Marilyn Burns Education Associates
(415) 332-4181
E-mail address: mbea@mathsolutions.com
Internet: http://www.mathsolutions.com

Teachers Involve Parents in Schoolwork (TIPS)
Center for the Social Organization of Schools
Johns Hopkins University
3401 N. Charles St., Baltimore, MD 21218
Internet: http://www.csos.jhu.edu/p2000/tips/tipsmain.htm

FOR PARENTS OF CHILDREN WITH SPECIAL NEEDS

Microsoft, Inc. offers solutions for making their computer technology more accessible to individuals with disabilities. Microsoft highlights a variety of resources and offers assistive technology to provide people with disabilities better access to computers running versions of Microsoft Windows.® For more information, visit http://www.microsoft.com/enable.

The Alliance for Technology Access (ATA) tests software programs for accessibility and usefulness with the most popular adaptive access devices for computers. For more information about the Alliance, its programs, and its affiliated centers, call (415) 455-4575. Visit their Web site at http://www.ataccess.org for more information.



ABOUT TERC

Zoombinis Island Odyssey is based on concepts developed by Scot Osterweil at TERC. TERC is an education research and development organization committed to improving mathematics and science learning and teaching. The strands of its work include creating innovative curriculum, fostering teacher development, conducting research on teaching and learning, and developing technology tools. Founded in 1965, TERC is a private, nonprofit enterprise. It is located in Cambridge, Massachusetts.

Scot Osterweil is a software designer at TERC. He has a background in computer animation, public television, and theater. He is the father of two sons and the author of two children's books.

TROUBLESHOOTING

We recommend that when you start *Zoombinis Island Odyssey*, it is the only application running on your computer. Running other programs simultaneously may affect the program's performance or the amount of computer memory available to run *Zoombinis Island Odyssey*. Below are some general technical support hints as well as instructions to verify that *Zoombinis Island Odyssey* is the only program running (in addition to the operating system).

Read the following list of common problems for both Windows and Macintosh computers. If you still have questions, see Contacting Riverdeep – The Learning Company on page 48 of this user's guide.

WINDOWS® TROUBLESHOOTING

1. The "ZOOMBINIS ISLAND ODYSSEY" program icon does not appear in the Start menu.

❑ Reinstall the program.

2. You get a message telling you that there is not enough available space on the hard disk.

Zoombinis Island Odyssey requires 80 MB of free hard disk space for the program's data and executable files.

❑ Create some free hard disk space by removing some files after backing them up.

3. You see a message telling you that there is not enough memory to run the program.

Zoombinis Island Odyssey needs at least 32 MB of installed memory (RAM) to run. Your computer's memory may be filled with other programs that are running in the background.

❑ Close any other applications that are running, and try starting the program again.

4. The mouse doesn't seem to work.

There are times in the program when the animation or sound cannot be interrupted. You will see the hourglass cursor on the screen and any key presses or mouse clicks will be ignored.

❑ Wait until the animation or sound stops and your normal cursor returns. Then try pressing the keys or clicking the mouse again.

5. The program speed is very slow.

Zoombinis Island Odyssey needs at least a 233 MHz computer with an 8X CD-ROM drive for basic performance.

❑ Close any other applications that are running.

❑ Turn off Background Animations at the Settings screen in the Options menu.

❑ Make sure that you have the latest Windows video drivers for your graphics card. (Contact the manufacturer to obtain the latest drivers.)

6. You do not hear music, sound, or speech.

- ❑ Check that the speakers are properly connected to your computer.
- ❑ Be sure they are getting power and are turned on, and that the volume is turned up.
- ❑ Make sure that your sound card is Windows compatible and is properly installed for Windows. Be sure that your sound card is specifically designed to work with your version of Windows. Also check that the volume is properly set. (See the manufacturer's documentation for more information relating to your sound card.)
- ❑ Make sure the mixer level setting is correct.
- ❑ Click the START button. Choose PROGRAMS from the Start menu. Next choose ACCESSORIES. Then choose MULTIMEDIA, and choose VOLUME CONTROL. Make sure that the sliders on the mixer control panel are all the way up and that no mute buttons are selected.

7. Strange graphics appear; the game action stops unexpectedly.

- ❑ Try using the 800 x 600, high-color (16-bit) display mode driver that came with your video card. (See your Windows documentation for more information.)
- ❑ Make sure you have the latest Windows video drivers installed. (Contact your video card manufacturer for more information.)

8. Colors don't look right.

- ❑ Adjust your monitor's color and brightness.
- ❑ Make sure the color display is set to high color (16-bit).
- ❑ Turn off your screen saver.
- ❑ Close any other applications that are running.
- ❑ Make sure you have the latest graphics drivers installed.
- ❑ Contact your video card manufacturer for more information.

9. The game window seems small.

The program window may not fill the entire screen.

- ❑ For maximum window size, make sure that the display mode is set to 800 x 600. (See your Windows documentation for more information.)

10. You are not able to connect to our Web sites.

This feature requires a browser.

- ❑ Make sure that you have a browser properly installed. See your browser and Windows documentation for more information.
- ❑ Make sure that the files with an .HTM extension (for example, bookmark.htm) are associated with the browser of your choice. To check this, double-click any .HTM file. If the browser does not launch, create an association from the File Manager. See your Windows documentation for more information.

MACINTOSH® TROUBLESHOOTING

1. The "ZOOMBINIS ISLAND ODYSSEY" program icon does not appear.

- ❑ Make sure the program CD is inserted in the CD tray, printed side up.
- ❑ Try restarting your computer and/or rebuilding your desktop.

2. You get a message telling you that there is not enough available space on the hard disk.

Zoombinis Island Odyssey requires 80 MB of free hard disk space for the program's data and executable files.

- ❑ Create some free hard disk space by removing some files after backing them up.
- ❑ Adjust the Virtual Memory setting to take less hard disk space. (See your Macintosh documentation.)

3. You see a message telling you that there is not enough memory to run the program.

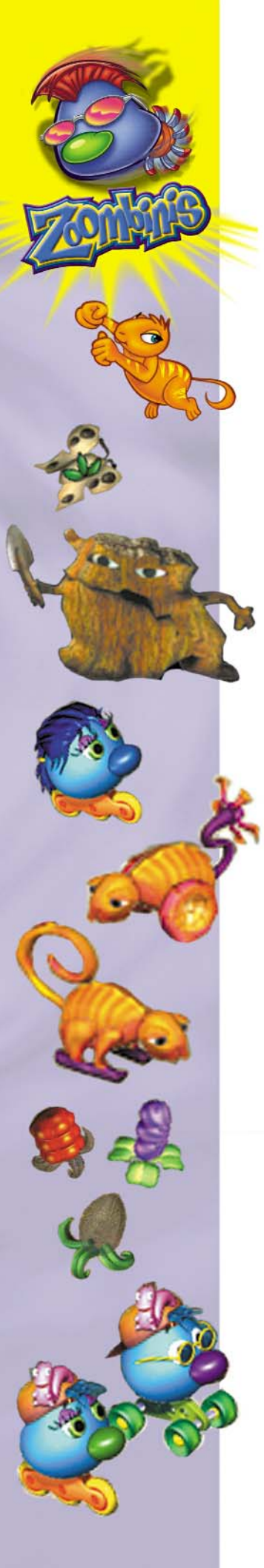
Zoombinis Island Odyssey needs at least 32 MB of installed memory (RAM) to run.

- ❑ Try to increase available memory and then start the program again. (Depending on which Internet browser you use, you may not be able to run both your browser and the program with only 32 MB of RAM.)
- ❑ Close any other applications that are running.
- ❑ Turn off or remove from the System Folder non-Apple® control panels.
- ❑ Reduce the size of the disk cache in the memory control panel. (See your Macintosh documentation.)
- ❑ Turn off AppleTalk.®

4. The mouse doesn't seem to work.

There are times in the program when the animation or sound cannot be interrupted. You will see the watch cursor on the screen, and any key presses or mouse clicks will be ignored.

- ❑ Wait until the animation or sound stops and your normal cursor returns. Then try pressing the keys or clicking the mouse again.



5. The music and voice in the game are too loud or too soft.

❏ Choose Volumes from the Control Panels. Adjust your system's speaker volume as needed by selecting the Volume setting.

6. You do not hear music, sound, or speech.

❏ Make sure that the Volumes setting in the Sound control panel in Control Panels is not set to zero.

❏ If you have external speakers, make sure they are turned on and getting power and that they are properly connected to your computer. Also check the speaker volume.

❏ Turn off or remove from the System Folder non-Apple control panels and extentions. (Leave the CD-ROM drivers.) Restart your computer.

7. You hear popping noises in the game sounds and animation.

If you are running System 8.6 or higher, installing the Apple Sound Manager (included on your program CD) should eliminate this problem. Sound Manager changes how the system handles sound and improves the program's sound quality. To install Sound Manager, follow the instructions below:

❏ Insert the program CD into your CD-ROM drive. In the open program window, scroll down until you see two icons: Sound Manager and Sound. Drag the Sound Manager and Sound icons into your active System Folder icon. (Do not open the System Folder first.) The active System Folder has a picture of a small computer on it. Click on OK in the dialog box that appears. Restart your computer.

9. Program speed is very slow.

Zoombinis Island Odyssey needs at least a 266 MHz Power Macintosh computer with an 8X speed CD-ROM drive for basic performance.

❏ Close all other applications.

10. You are not able to connect to our online Web sites.

This feature requires a browser.

❏ Make sure that you have a browser properly installed. See your browser and Macintosh documentation for more information.

11. The game crashes to the desktop after the opening movie.

If your computer runs on OS X, your display setting must be set to Thousands colors.

❏ Open the Control Panels under the Chooser and point to Monitors. Change the display setting to Thousands.colors.

CONTACTING RIVERDEEP – THE LEARNING COMPANY

If you have questions about your *Zoombinis Island Odyssey* program, please refer to the Troubleshooting section. If you do not find an answer to your question, visit our Web site at: http://www.riverdeep.net/learningcompany/support. Click Product Support. Select the product name from the alphabetical list and check to see if the problem you are experiencing is listed among the FAQs. If you need to speak to a technical support representative, click Contact Us and scroll down to the Technical Support area for the appropriate number.

You may be asked to provide the following information:

- ❑ Your contact information (name and email address, plus phone or mailing address if you wish)
- ❑ Description of the problem you're having
- ❑ Product name and version number (The version number is often printed on the CD label.)
- ❑ Brand of computer
- ❑ Operating system (for example, Windows® 98 or Mac® OS 8.6)
- ❑ Processor type and speed
- ❑ RAM memory (in MB or megabytes)
- ❑ Video card manufacturer
- ❑ Sound card manufacturer
- ❑ Printer type
- ❑ Hard disk space remaining
- ❑ Background programs (antivirus programs or screensavers)

CUSTOMER SUPPORT

SMILES GUARANTEED!

If you are not completely satisfied with this product, Riverdeep – The Learning Company will gladly refund your purchase price. Return the complete package to us at The Learning Company, Dock Door #9, 120 Hidden Lake Circle, Duncan, SC 29334, within 30 days of purchase. Include a copy of the sales receipt, packing slip, or invoice showing the store name and location. Please enclose an explanation for the return. Allow 4–6 weeks for refund. Limit 1 per household. Dealers, wholesalers, and their immediate families are not eligible.

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3D Modeling and Animation
Sunny Chancellor
Gaben Chancellor

3D Animation
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David Horowitz